ABSTRACT

A flexible architecture GPS receiver having an intelligent buffer for capturing incoming sampled RF signals at a rate consistent with the GPS bandwidth and subsequent repeated "playbacks" of the buffered data at rates consistent with FPGA/ASIC hardware. The GPS receiver utilizes a "batch-mode" concept which provides for the potential of simultaneous search and tracking of GPS signals. The GPS further receiver uses lossless multiplexing for allowing single channel receiver hardware to process multiple satellite signals, i.e., to behave as multi-channel receiver hardware, without any substantial performance degradation.